

## ABSTRACT

A method of manufacturing an article having controlled density, such as a decoupler for attenuating sound in a vehicle, is disclosed. The method comprises the conveying of material into a mold to form a preform having a shape of the mold, heating the preform to a temperature such that adjacent materials bond to one another upon cooling, and forming the heated preform in the mold into a predetermined three-dimensional configuration. The mold may have a perforated section and at least one panel movably attached to the mold so as to selectively expose portions of the perforated section. The density of the preform may be varied as the at least one panel is moved to expose the perforated section of the mold. A contoured mold for manufacturing articles such as decouplers is also disclosed.